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SONNENSCHN NATH & ROSENTHAL LLP			ELMORE, JOHN E	
P.O. BOX 061080			ART UNIT	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,683

Applicant(s)

WATANABE ET AL.

Examiner

John Elmore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 have been examined.

Objections to Specification

2. **Claim 16 is objected to** because of the following informalities: the term "makes a deal with" (line 2) should read "provides services to" and the term "gets across to" (line 5) should read "accesses". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 14 is rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "such as" (lines 4 and 7) renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). In the interest of compact prosecution, the limitations following the phrase "such as" and ending with a semicolon subsequently are ignored.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1 and 30 are rejected under 35 U.S.C. 102(e)** as being anticipated by Dulude et al., hereafter Dulude (US 6,310,966).

Regarding claim 1, Dulude teaches an authentication system comprising:

a person identification authority (registration authority 34) which creates a person identification certificate (biometric certificate 68) for storing the template (registration biometric data) and which issues the person identification certificate to an entity which executes person authentication, wherein said person identification authority acquires the template and data for person identification from the user to be certified with the person identification certificate, and creates and registers on the basis of the identification of the user, the person identification certificate for storing the template which is the person identification data (col. 4, lines 13-32; col. 5, lines 33-40; col. 6, lines 32-34), and

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the entity which executes person authentication (reception section 42) compares the template stored in the person identification certificate with the sampling information of the user so as to execute person authentication (Fig. 5; col. 7, lines 33-44).

Regarding claim 30, this is a program-providing-medium version of the claimed system discussed above (claim 1), wherein all claim limitations have been addressed. Therefore, for reasons provided above, such a claim also is anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2-6, 8-11 and 14-29 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Dulude in view of Arnes ("Public Key Certification Revocation Schemes," Masters Thesis, Queen's University, February 2000).

Regarding claim 2, Dulude teaches all the limitations of claim 1, but does not explain that said person identification authority acquires a template deleting request and the data for person identification from the user to be certified with the person identification certificate, deletes the template from the person identification certificate and registers the person identification certificate in a revocation list, on the basis of the identification of the user.

However, Arnes teaches a public key infrastructure wherein a person identification authority (CA) acquires a certificate deleting request and the data for person identification from the user to be certified with the person identification certificate and registers the person identification certificate in a revocation list (CRL), on the basis of the identification of the user for the purpose of revoking a certificate in response to a change to the user's identifying information or a change in the relationship of the user and the certifying authority (page 8, paragraphs 3 and 4). Arnes also teaches the deletion of information contained in certificate prior to inclusion in a revocation list which is unnecessary to prove revocation status for the purpose of reducing network load (page 9, paragraph 3).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Dulude with the teaching of Arnes to provide that said person identification authority acquires a template deleting request and the data for person identification from the user to be certified with the person identification certificate, deletes the template from the person identification certificate and registers the person identification certificate in a revocation list, on the basis of the identification of the user. One would be motivated to do so in order to revoke a certificate upon a change to the user's identifying information or a change in the relationship of the user and the certifying authority and to process the revocation with minimal impact on network load.

Regarding claim 3, this is the same as claim 2 except that the person identification authority acquires a changing request along with a new template instead of

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a deleting request. Arnes teaches the revocation of a certificate in response to a changing request (e.g. change of subject name; page 8, paragraph 3). The Examiner takes official notice that one of ordinary skill in the art at the time the invention was made would recognize that the certification process regarding the change of the template information is equivalent to the change of any other user information associated with the certificate (e.g. name) and that the new information must be provided along with the request; that is, the old certificate would be revoked and a new certificate would be issued containing the updated information. Therefore, for the reasons provided above, such a claim also would be obvious.

Regarding claim 4, this is the same as claim 3 except that the person identification authority acquires an addition request instead of a changing request. One of ordinary skill in the art at the time the invention was made would recognize that the requests are functionally equivalent; that is, the authority receives a new template in either case, and the addition request is equivalent to a change request that results in a net addition of template information. Put another way, the addition of a new template is equivalent to the replacement of the old template with a new template containing both the old and new information. Therefore, for the reasons provided above, such a claim also would be obvious.

Regarding claim 5, this is the same as claim 2 except that the person identification authority acquires a suspension request instead of a deleting request and invalidates rather than deletes the template. The Examiner takes official notice that one of ordinary skill in the art at the time the invention was made would recognize the

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alternative practice of flagging user information in a database as invalid instead of deleting that same information for the purpose of preserving the information where it is likely to be used again in the future, particularly where a user will likely be issued a new certificate based on the same information. Therefore, for the reasons provided above, such a claim also would be obvious.

Regarding claim 6, this is the same as claim 5 except that the person identification authority acquires a template suspension cancel request rather than a suspension request from the user and the subsequent steps are reversed. The Examiner takes official notice that one of ordinary skill in the art at the time the invention was made would recognize that the cancellation of a previous action involves a reversal of the steps involved to perform that action; that this, the template that was invalidated is re-validated and the person identification certificate that was placed in the revocation list is removed from the list. Therefore, for reasons provided above, such a claim also would be obvious.

Regarding claim 8, Dulude teaches all the limitations of claim 1, and further teaches that said person identification authority issues, in response to a request from the entity which executes person authentication, the registered person identification certificate to the entity, and in the issuing of the person identification certificate to the entity, the template to be stored in the person identification certificate is issued as an encrypted data which may be decrypted in the entity (col. 6, lines 58-65). Therefore, for the reasons provided above, such a claim also would be obvious.

Regarding claim 9, Dulude teaches all the limitations of claim 1, and further teaches that said person identification authority issues, in response to a request from the entity which executes person authentication, the registered person identification certificate to the entity, and in the issuing of the person identification certificate to the entity, the template to be stored in the person identification certificate is issued as data encrypted with a public key of the entity (col. 6, lines 58-65). Therefore, for the reasons provided above, such a claim also would be obvious.

Regarding claim 10, this is the same as claim 3 except that the person identification authority does not acquire a new template in association with the issuance of a new certificate. One of ordinary skill in the art at the time the invention was made would recognize that updating a certificate by issuing a new certificate containing the same template information as the old certificate is equivalent to a making a changing request and providing the same template information as contained in the old certificate. It would be obvious to one of ordinary skill in the art at the time the invention was made to eliminate the step of sending along the same template information for the issuance of a new certificate for the motivation of reducing network load. Therefore, for reasons provided above, such a claim also would be obvious.

Regarding claim 11, Dulude teaches all the limitations of claim 1, but does not explain that said person identification authority acquires a request for deleting the person identification certificate and the data for person identification from the user to be certified with the person identification certificate, deletes the person identification certificate, and requests deletion of the issued person identification certificate to the

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entity to which the person identification certificate is issued, on the basis of the identification of the user.

However, Arnes teaches a public key infrastructure wherein a person identification authority (CA) acquires a certificate deleting request and the data for person identification from the user to be certified with the person identification certificate and requests deletion of the issued person identification certificate to the entity to which the person identification certificate is issued, on the basis of the identification of the user for the purpose of revoking a certificate in response to a change to the user's identifying information or a change in the relationship of the user and the certifying authority (page 8, paragraph 3, through page 9, paragraph 2).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Dulude with the teaching of Arnes to provide said person identification authority acquires a request for deleting the person identification certificate and the data for person identification from the user to be certified with the person identification certificate, deletes the person identification certificate, and requests deletion of the issued person identification certificate to the entity to which the person identification certificate is issued, on the basis of the identification of the user. One would be motivated to do so in order to revoke a certificate upon a change to the user's identifying information or a change in the relationship of the user and the certifying authority.

Regarding claim 14, Dulude teaches all the limitations of claim 1, and further teaches that template to be stored in the person identification certificate created by said

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person identification authority is biometric information of a person, or non-biometric information, or any combination of two or more of the biometric information and the non-biometric information, or a combination of any of the information and a password (biometric information; col. 4, lines 33-42). Therefore, for reasons provided above, such a claim also would be obvious.

Regarding claim 15, Dulude teaches all the limitations of claim 1, and further teaches that the person identification certificate issued by said person identification authority includes the digital signature written by said person identification authority (Fig. 2; col. 4, lines 61-63). Therefore, for reasons provided above, such a claim also would be obvious.

Regarding claim 16, Dulude teaches all the limitations of claim 1, and further teaches that the entity is a service provider which provides services to the user identified by the person identification certificate, a user device that the user identified by the person identification certificate accesses, or said person identification authority (receiving section 42 is a service provider to user; col. 8, lines 32-45, incorporating Vaeth, US 6,035,402; see Vaeth, col. 6, lines 5-26). Therefore, for reasons provided above, such a claim also would be obvious.

Regarding claims 17-29, this are a method version of the claimed system discussed above (claims 1-13), wherein all claim limitations have been addressed. Therefore, for reasons provided above, such claims also would be obvious.

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6. **Claims 7 and 13 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Dulude in view of Diffie et al., hereafter Diffie, ("Authentication and Authenticated Key Exchanges," Designs, Codes and Cryptography, Kluwer Academic Publishers, 1992).

Regarding claim 7, Dulude teaches all the limitations of claim 1, and further teaches that the user to be certified with the person identification certificate requests registration, deletion, change, addition, suspension, or canceling of suspension of the template (e.g. registration request initiated by user device; col. 4, lines 12-65).

But Dulude does not explain that said person identification authority executes mutual authentication with a user device in data communication with the user device, and prevents and verifies data-tampering by creating a digital signature and performing signature verification.

However, Diffie teaches a method of two-party mutual authentication wherein the parties exchange digital signatures (page 9, first paragraph) in addition to their public cryptographic keys for the purpose of enhancing security by assuring that each of the parties exchanging a public key is authentic and not an imposter (page 2, paragraph 3).

Therefore, it would be obvious to a person of ordinary skill in the computer art at the time the invention was made to modify the system of Dulude with the teaching of Diffie such that said person identification authority executes mutual authentication with a user device in data communication with the user device, and prevents and verifies data-tampering by creating a digital signature and performing signature verification. One

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would be motivated to do so in order to enhance network security by assuring that each of the parties exchanging a public key is authentic and not an imposter.

Regarding claim 13, Dulude teaches all the limitations of claim 1, and further teaches that person identification authority engages in data communication with the entity which executes person authentication, performed to issue, update, delete, or inquire the person identification certificate to the entity which executes person authentication (e.g. issue of a certificate; col. 4, lines 55-65; col. 5, lines 33-44; col. 6, lines 28-34).

But Dulude does not explain that said person identification authority executes mutual authentication with a device of the entity and verifies data validity by checking whether the data is tampered with by adding the digital signature and performing signature verification.

However, Diffie teaches a method of two-party mutual authentication wherein the parties exchange digital signatures (page 9, first paragraph) in addition to their public cryptographic keys for the purpose of enhancing security by assuring that each of the parties exchanging a public key is authentic and not an imposter (page 2, paragraph 3).

Therefore, it would be obvious to a person of ordinary skill in the computer art at the time the invention was made to modify the system of Dulude with the teaching of Diffie such that said person identification authority executes mutual authentication with a device of the entity and verifies data validity by checking whether the data is tampered with by adding the digital signature and performing signature verification. One would be

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motivated to do so in order to enhance network security by assuring that each of the parties exchanging a public key is authentic and not an imposter.

7. **Claim 12 is rejected under 35 U.S.C. 103(a)** as being unpatentable over Dulude in view of Yu et al. (US 5,930,804), hereafter Yu.

Regarding claim 12, Dulude teaches all the limitations of claim 1, and further teaches that in the comparison for verification of the person identification certificate to the entity, the sampling information received is compared with the template in the person identification certificate stored in said person identification authority, and a comparison result is provided as a response (col. 6, lines 32-35; col. 7, lines 33-44).

But Dulude does not explain that the person identification authority performs comparison for verification based on the person identification certificate in response to a request from the entity which executes person authentication.

However, Yu teaches an authentication system wherein the person identification authority (authentication center 24) performs comparison for verification based on the person identification certificate in response to a request from the entity which executes person authentication (web server 20, in response to request for service by user at web client 14, requests verification from authentication center 24; Fig. 1 and 4; col. 8, lines 9-20) for the purpose of providing a more secure and improved authentication system (col. 2, lines 55-58).

Therefore, it would be obvious to a person of ordinary skill in the computer art at the time the invention was made to modify the system of Dulude with the teaching of Yu

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such that the person identification authority performs comparison for verification based on the person identification certificate in response to a request from the entity which executes person authentication. One would be motivated to do so in order to provide a more secure and improved authentication system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cordery et al. (US 5,796,841) teaches a system for authentication of users for e-commerce involving digital certificates.

Deo et al. (US 5,721,781) teaches a system for mutual authentication of entities over a network by exchanging digital signatures.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Elmore whose telephone number is 571-272-4224. The examiner can normally be reached on M 10-8, T-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Morse can be reached on 571-272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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JE



GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100